GMR Sensor with Oriented Hard Bias Stabilization

Abstract

5   Magnetic data storage devices use read/write heads to transfer data between the magnetic storage medium and the rest of the system. The read head is constructed with a magnetic layer called a free layer whose magnetic axis rotates based upon external magnetic influences of the magnetic storage medium. The free layer is biased into a predetermined magnetic orientation with the magnetic influence of a layer called a hard bias layer. Orientation of magnetic axes

10   within the hard bias layer is desired. This document describes a hard bias layer whose magnetization exhibits uniaxial magnetic anisotropy.